AF/1616

ZPW

CASE AG/3-21900/AC 509

CERTIFICATE OF MAILING

I hereby certify that this paper (along with any paper referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Andrea DeCecchis (Type or print name) Andrea DeCecchis (Signature) 10/6/05 (Date)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF
SIMON ALEXANDER HANSON ROSE ET AL
APPLICATION NO: 09/361,816
FILED: July 27, 1999
FOR: PROCESS FOR IRRIGATION OF SOIL WITH WATER AND COMPOSITIONS WHICH PROVIDE FERTILIZATION AND SOIL STABILIZATION BENEFITS

Group Art Unit: 1616
Examiner: Sabiha Naim Qazi

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDED APPEAL BRIEF

Sir:

This Amended Appeal Brief is submitted in response to Notification of a Non-Compliant Appeal Brief mailed on September 9, 2005. The Brief was deemed unacceptable because it lacked separate heading and /or explanations for (VIII) Claims Appendix, (IX) Evidence Appendix and (X) Related Proceedings Appendix. The Amended enclosed version corrects the stated deficiencies and is filed within 1 month of the mailing date of notification. The Appellant also include copies of all authorities cited within the Brief in the Amended Brief.

This appeal is from the final rejection mailed from the PTO on May 20, 2004.

The Commissioner is authorized to charge any fee due, or credit any overcharge, as a result of this Amendment to Deposit Account No. 03-1935.

This Brief is timely filed.

(1) REAL PARTY OF INTEREST

The real party of interest is by virtue of an assignment recorded in the USPTO on November 12, 1999 on reel 010411, frame 0136:

Ciba Specialty Chemicals Water Treatments Ltd.
Cleckheaton Road
Low Moor
Bradford, West Yorkshire BD12 OJZ
Great Britain

(2) RELATED APPEALS AND INTERFERENCES

An Appeal Brief is also filed in Application number 10/057,423, filed January 24, 2002 of the same family. Application number 10/057,423 is also assigned to Ciba Specialty chemicals Water Treatments Ltd. The assignment was recorded on November 12, 1999 on reel 010411 frame 0136.

(3) STATUS OF THE CLAIMS

Claims 12-21 are pending. Claims 1-11 are cancelled. Claim 12-21 stand rejected and are argued upon Appeal.

(4) STATUS OF AMENDMENTS

Claim 12 was amended after Final Rejection but the amendment was not entered as Examiner alleged the amendment did not place the application in better form for appeal by materially reducing

or simplifying the issues for appeal. Thus the claims presented in the amendment of January 30, 2004 are those argued on appeal. This brings up to date the status of the claims. A clean copy of the claims are attached in the Claims Appendix .

(5) SUMMARY OF THE CLAIMED SUBJECT MATTER

Claim 12 is the only independent claim and is supported by the following passages within the specification.

Claims 12 reads:

A soil treatment process comprising adding an aqueous soil treatment composition consisting essentially of:

(a) an ionic water-soluble fertilizer in an amount of at least 10 weight percent, and

(b) a water-soluble anionic polymer which has intrinsic viscosity of from 9 to 12 dl/g and is formed from water-soluble monomer blend comprising 60 to 80 wt.% anionic monomer and from 40 to 20 wt.% nonionic monomer, the composition having a viscosity of not more than 4,000 cps, to water, the composition being thereby diluted, and irrigating an area of soil with the water.

The basic soil treatment process claimed above may be found on page 3, lines 6-12. The limitation of a water-soluble anionic polymer with an intrinsic viscosity of from 9 to 12 dl/g is taken from original claim 3, now cancelled. The water-soluble polymer is formed from 60 to 80% anionic monomer and from 40 to 20 wt. % nonionic monomer. This limitation was supported by original claim 5, now cancelled. The composition having a viscosity of not more than 4,000 cps can be found on page 8, paragraph 1, line 6.

The ionic water-soluble fertilizer can be described as inorganic or urea-containing fertilizers. The fertilizer is present in a concentration of at least 10 wt. %. See page 5, last paragraph and continuing onto first paragraph of page 6. This composition is intended as a concentrate which is diluted and an area of soil is irrigated with the diluted composition. See page 8, paragraph 2.

Claim 14 is argued separately in regard to issue 1.

Claim 14 is dependent on claim 12. Claim 14 is supported in specification as below.

The process of soil treatment is suitable for irrigation processes including drip, furrow and spray irrigation. See page 8, line 21. In particular the composition is suitable for use in processes of spray irrigation. This method of irrigation comprises pumping water through feed ducting and a mixing zone to a spray manifold supplying one or more spraying devices by which the water is sprayed onto the crop area to be irrigated, and the aqueous composition of the invention is metered directly into the water at or before the mixing zone. See page 8, last paragraph, lines 21-28.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Claims 12-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP 586,911 and Sylling et al WO85/01938.

2. Claims 12-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over JP 51-124578.

(7) ARGUMENT

Claims 12-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over EP 586,911 and Sylling et al WO85/01938.

Claims 12, 13 and 15-21 are argued together for issue 1.

Examiner alleges that the references teach polymeric soil improvement compositions, which embrace appellant's claimed invention. EP '911 teaches a composition for the treatment of soil containing an anionic fertilizer and an anionic polymer such as polyacrylamide and 97 to 0 mole percent of different water-soluble monomer or salts thereof. Prior art EP '911 teaches gel compositions and instant is aqueous composition. Prior art does not specify viscosity, which is instantly claimed. WO '938 teaches a composition for desalination of soils comprising anionic polymeric materials such as copolymers of acrylic acid, and methacrylic acid in aqueous compositions.

The Appellants respectfully disagree for the following reasons:

A. The Appellants believe EP '911 does not discloses or suggest the instant aqueous soil treatment compositions with the claimed viscosity.

B. Appellants further aver that Sylling should not be used in combination with EP '911 as it deals with soil desalination not soil fertilization.

C. And finally, Appellants will point out that the instant compositions do show unobvious results (low viscosity) not suggested in EP '911 or Sylling.

A. The Appellants believe EP '911 does not discloses or suggest the instant aqueous soil treatment compositions with the claimed viscosity.

The instant claims teach a soil treatment process comprising adding an aqueous soil treament composition consisting essentially of:

a) an ionic water-soluble fertilizer in an amount of at least 10 weight percent, and
b) a water-soluble anionic polymer which has intrinsic viscosity of from 9 to 12 dl/g and is formed from water-soluble monomer blend comprising 60 to 80 wt. % anionc monomer and from 40 to 20 wt. % nonionic monomer, the composition having a viscosity of not more than 4,000 cps, to water, the composition being thereby diluted, and irrigating an area of soil with the water.

The present composition requires particular anionic water-soluble polymers as part of the aqueous composition. See polymer b) above. The Examiner states that the viscosity of the present anionic water-soluble polymers is the same as that taught by EP '911 even though there are absolutely no examples within EP '911 which encompass the anionic polymers of the present claims. See page 4 of Office Action mailed on May 20, 2004 wherein the Examiner states that "a chemical compound and its properties for example viscosity, melting point, density etc. are inseparable to the compound." Thus the Examiner makes the inherency argument that the anionic polymers and nutrients of EP '911 are the same as those described by the instant. As they are alleged to be the same, they must have the same intrinsic viscosity. The suggestion of Sylling to use aqueous compositions thus, according to the Examiner completes the limitations of the present claims.

EP '911 does show compositions for treatment of soil containing anionic fertilizers and anionic polymers. EP '911 gives a very generic description on page 3, lines 38-45 of copolymers of

acrylamide and acrylic acid and suggests ranges of 3 to 100 mole percent of acrylic monomer unit or salts thereof and from about 97 to 0 mole percent of different water-soluble monomer or salts thereof. Examples of polymers useful in the practice of EP '911 are polyacrylamide, copolymers of acrylamide and acrylic acid, polyacrylates, modified cellulose polymers, polysaccharides etc. This generic disclosure covers almost an infinite number of polymers.

EP '911 examples 1-7 show specific polymers of acrylamide and acrylic acid (examples 1-4 and 7), sodium acrylate and 2-acrylamido-2-methylpropane sulfate (example 5) and carboxymethyl cellulose (example 6).

Examples 1-4 and 7 are the only copolymer compositions containing acrylic acid and acrylamide and each of these examples is made from a 90 % acrylamide to 10 % acrylic acid ratio.

There is not one example of Appellants specifically claimed water-soluble anionic polymer (60 to 80 wt. % anionic monomer and from 40 to 20 wt. % nonionic monomer) making up the water-soluble copolymer in combination with ionic fertilizers.

There is no mention in EP '911 of the intrinsic viscosity of the water-soluble anionic polymer, nor is there any mention of the viscosity of the polymer/fertilizer combinations in EP '911. And yet the Examiner alleges that the anionic polymers of EP '911 inherently have the same viscosity as the Appellants anionic polymers.

As stated in *Ex. parte Schricker*, 56 USPQ 2d 1723, 1725 (B.P.A.I. 2000) (unpublished)

[T]he examiner talks in terms of inherency (which is really an anticipation rationale) while on the other hand the examiner talks in terms that it would have been obvious to experiment to divine optimum conditions.

Inherency and obviousness are somewhat like oil and water--they do not mix well. Claimed subject matter can be anticipated because a prior art reference describes a method which inherently meets the limitations of a claimed method. Claimed subject matter can be unpatentable for obviousness when, notwithstanding a difference between that subject matter and a prior art reference, the claimed subject matter, as a whole, would have been obvious. However, when an examiner relies on inherency, it is incumbent on the examiner to point to the "page and line" of the prior art which justifies an inherency theory. *Compare In re Rijckaert*, 9 F.3d 1531, 1533, 28 USPQ 2d 1955, 1957 (Fed. Cir. 1993) (when the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the prior art) (citing *In re Yates*, 663 F.2d 1054, 1057, 211 USPQ 1149, 1151 (C.C.P.A. 1981).

There is no suggestion in the cited prior art that justifies this inherency theory. There are no examples of polymers in EP '911 encompassed by the present claims. There is no discussion in EP '911 as to viscosity and the importance of this characteristic in regard to the compositions disclosed in EP'911. The Appellants aver it would not be obvious to select from the vast array of potential anionic polymers suggested by EP '911 and then from this vast array of potential anionic polymers to furthermore select the particular monomer ratio claimed by the instant invention with the claimed range of intrinsic viscosities (9 to 12 dl/g) and combine with nutrient to achieve a composition viscosity of not more than 4,000 cps.

B. Appellants further aver that Sylling should not be used in combination with EP '911 as it deals with soil desalination not soil fertilization.

Sylling et al. WO 85/01938 describes a soil treatment composition which is an aqueous solution comprising organophosphorus acids and an anionic water-soluble low molecular weight polymer (page 5, lines 3 to 7). The low molecular weight anionics of Sylling are used as dispersants to drive high sodium and alkaline ions away from growth sites or deslaination of soils. See page 5, paragraph 3. The anionic of Sylling are not used to stabilize the soil as in EP '911 and are "not intended as a means of introducing fertilizers to crops." See page 7 lines 18-21.

In contrast, the anionic polymers in the compositions of the instant invention have molecular weights sufficiently high to give a soil stabilization effect not a low molecular weight material which would act as a dispersant. See page 4, paragraph 4 of Appellants disclosure. In further contrast the present water-soluble anionic is formed from 60 to 80 % anionic monomer and from 40 to 20 wt. % nonionic. It is not clear from Sylling what wt. % of the Belcene is hydrolysed or anionic.

Thus, Sylling relates to a different technical area and does not constitute relevant prior art. A person skilled in the art would not look to Sylling for aqueous compositions including ionic fertilizer. As explained above the anionic of Sylling is "not intended as a means of introducing fertilizers to crops."

It is well-settled that the mere fact that the prior art could be modified to form the invention would not make that modification obvious unless the prior art suggested the desirability of the modification. In re Laskowski, 10 U.S.P.Q. 2d 1397, 1398 (Fed. Cir. 1989); In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). It is submitted that the cited art does not teach or suggest the

desirability of modifying EP '911 to incorporate aqueous systems of Sylling as the compositions of Sylling are used for desalination of soil and definitely not suitable for fertilization and soil stabilization.

C. And finally, Appellants will point out that the instant compositions do show unobvious results (low viscosity) not suggested in EP '911 or Sylling.

For clarity, the Appellants state that the invention is: a concentrated composition, which contains polymer and at least 10 wt. % fertilizer, has an extraordinary low viscosity. Neither Sylling nor EP '911 recognizes the low viscosity advantages of the inventive compositions comprising high anionic content (60 to 80%) with high fertilizer content (at least 10%) as will be explained below.

Appellants point to polymer B as a representative example in their specification for the invention they are claiming. Polymer B is formed from 65 wt. % anionic monomer and 35 wt. % nonionic monomer (page 11, first two lines). In example 1on page 10, compositions containing 2 wt. % of this polymer B and various fertilizers, namely urea ammonium nitrate (table 1, line 4, page 12), ammonium sulfate (table 1, line 7, page 12) and in example 2 on page 13, potassium chloride (table 2, line 5 and 6, page 14), show extremely low viscosities, namely 1510 cPs, 640 cPs, 350 and 375 cPs. In addition the compositions containing polymer B, and various fertilizers still show excellent soil stabilizing characteristics as can be seen by the flocculation values, which are 216.3 (measured in turbidity NTU , table 1, line 4, page 12), 285.3 (table 1 line 7, page 12), 240 (table 2, line 5, page 14) and 148 (table 2, line 6, page 14) . These NTU respective values are 28.5, 37.6, 37.2 and 22.9 percent of the flocculation value of the control (no polymer).

Compositions containing 2 w% of a polymer having an anionic monomer content outside the range of 60 to 80 w% and various fertilizers all, despite two exceptions, show viscosities above 3500 cPs (tables 1 and 2). The exceptions are the compositions containing polymer E (table 1, line 9, page 12) and polymer H (table 2, line 7, page 14), which show viscosities of 90 and 1250 cPs, respectively. The composition containing polymer E, however, does not show any soil stabilizing effect.

Appellants point out that polymer A (14.6 wt. % sodium acrylate and 85.4 wt. % acryalmide I) in table 1, page 12 is highly viscous showing a cps of 11,030. Also the low anionic composition polymers in table 2 also show very high viscosities. See polymers containing 14.24 % and 14.6 % anionics, lines 4, 11 and 14 in table 2, page 14 respectively. Each of these show extremely high viscosities (12,500,

8,625 and V. Viscous respectively). The polymers disclosed in EP '911 made up of 10 % anionics are more likely to be closer to the viscosity of these low anionic % than to those claimed by the Appellants.

The fact that only soil treatment compositions containing at least 10 w% fertilizer and a polymer having an anionic monomer content of 60 to 80 w% and a nonionic monomer content of 20 to 40 w% show exceptional low viscosities is an unexpected result, which could not be predicted by a skilled person. Therefore the claimed invention is unobvious.

A 103(a) rejection requires that there must be some suggestion or motivation, either in the references themselves or in the art, to modify or combine teachings. Furthermore, once combined, the prior art references must teach all of the claim limitations.

There is no suggestion within EP'911 or Sylling to combine the teachings of each to achieve the instant invention. EP' 911 is directed to a chemical grouting which prevents erosion and Sylling is directed to a chemical composition used to desalinate soil, not useful for delivering soil nutrients. As EP '911 generic disclosure does not suggest selecting specific water-soluble anionics encompassed by the present invention (it would not have been obvious to experiment to divine optimum conditions), the combination of EP '911 water-soluble anionics and ionic nutrients with Sylling would give an aqueous composition of polymers (10% anionic and 90/% nonionic) not encompassed by the present invention. As all the limitations are not taught by the prior art references when combined, the 103(a) rejection is improper and the Appellants request reconsideration and withdrawal.

It is submitted that neither EP '911 or Sylling singly or together:

1. Teaches the inventive low viscosity water-soluble anionic copolymer composition of the instant invention.

2. And finally the combining of the two references is improper because the compositions of Sylling are not suitable for fertilization.

3. Neither reference recognizes the unexpected exemplified viscosity advantages of the particular anionic composition of the present invention shown in tables I and 2 of the instant specification.

Thus the 103 (a) rejections of claims 12, 13 and 15-21 based on EP '911 in view of Sylling are improper and Appellants aver that the rejection is addressed and successfully rebutted.

Claim 14 is argued separately for issue 1.

Claim 14 is of narrower scope than claim 12. Claim 14 is a process according to claim 12 in which water is pumped through feed ducting in a mixing zone to a spray manifold supplying one or more spraying devices by which the water is sprayed onto a crop area and the aqueous soil treatment composition is metered into the water at or before the mixing zone.

Thus the composition of claim 12 is metered into the water at or before the mixing zone. The unobvious low viscosity composition of claim 12 can be added directly to the dosing equipment in place for concentrated fertilizer solutions.

As stated previously, the compositions of EP '911 do not disclose the particular anionic polymers with nutrients of the instant invention.

Furthermore, EP '911 relates to a nutrient enhanced chemical grouting. See line 1, page 2. The polymer solutions and nutrients are subjected to a crosslinking reaction as the forming gel is applied to the ground surface. There is no suggestion to meter this forming gel into water in a mixing zone and spraying onto a crop area. In contrast to Appellants process, EP '911 pumps the polymer solutions from tanks in separate lines to a holding tank, where the solutions mix while being applied to the surface shoulder area along both sides of a road. See Example 8, page 12, first paragraph. The process of EP '911 requires two separate feed lines for the polymer solutions as well as a holding tank for running the crosslinking reaction. The gel is applied directly to the ground in order to accelerate revegetation of the treated area. See page 3, lines 17-19. There is no suggestion in EP '911 to meter the polymer and nutrient solutions directly into a water source and then spray the diluted water onto a crop area.

Nor does Sylling et al WO85/01938 suggest the metering of polymer and nutrient solutions directly into a water source and then spraying the diluted water onto a crop area. As explained above, the polymers of Sylling are not intended for use with fertilizer solutions. Thus a person skilled in the art

would not look to Sylling for aqueous fertilizer compositions which are metered into an irrigation system. Thus the Appellants aver that the rejection is address and successfully rebutted.

Claims 12-21 stand rejected under 35 USC 103(a) as being unpatentable over JP 51-124578.

Claims 12-21 stand and fall together for issue 2.

JP 51-124578 discloses a soil treatment composition which is an aqueous solution comprising fertilizer and a water-soluble polymer consisting of 50 to 70 w% acrylamide and 30 to 50 w% potassium acrylate (page 2, third paragraph). This composition imparts to soil water-resistant aggregation ability and water-permeability as well as water retention property and is further useful as a fertilizer (page 1, third paragraph). It is usually diluted to a concentration of 1 to 10 w% fertilizer before being applied to the soil by appropriate methods such as spraying or dusting (page 3, second full paragraph). In example c) an aqueous solution comprising 11 w% fertilizer and 20 w% water-soluble polymer formed from 50 w% acrylamide and 50 w% acrylic acid is diluted by factor ten before being applied to sand soil.

The claimed composition differs from the composition disclosed in JP 51-124578 in that the instant contains a water-soluble polymer formed from 60 to 80 w% anionic monomer and 20 to 40 w% nonionic monomer. The advantage of this kind of polymer is discussed above (low viscosity when in a composition as in claim 1). The composition disclosed in JP 51-124578 can be diluted by water and then applied to the soil. However, it is not disclosed if this composition can also be added easily to irrigation water and thus is suitable for being processed using the dosing equipment which is in place for processing solutions of fertilizer alone. Based on the results presented in the present application the viscosity of the compositions disclosed in JP 51-124578 should be much higher than that of the claimed composition. Polymer L (42 anionic %) compositions show viscosities that vary from 5,975 and 6,150 cps in table 2. Polymer H (47 % anionic) shows some inconsistency from batch to batch. But clearly the compositions encompassed by the present invention, show dramatically lower viscosity than those encompassed by JP '578. Note that polymer B compositions show viscosities in the 300 cps ranges, as opposed to those compositions covered by JP '578 which show a cps that ranges from 1,250 to 9,000.

Therefore, as the inventive composition shows unexpected advantages (low viscosity with fertilizer) in light of tables 1 and 2 in the instant disclosure, the 103(a) rejection for JP '578 is addressed and successfully rebutted.

Appellants aver that these rejections are in error as outlined above and respectfully request that they be reversed.

Respectfully submitted,

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Attachments: Claims Appendix with clean copy of the claims on appeal, Evidence Appendix, Related Proceedings Appendix, Copy of all authorities cited in the Appeal Brief.

(8) CLAIMS APPENDIX

1-11. **(cancelled)**

12. **(previously presented):** A soil treatment process comprising adding an aqueous soil treatment composition consisting essentially of:

(a) an ionic water-soluble fertilizer in an amount of at least 10 weight percent, and

(b) a water-soluble anionic polymer which has intrinsic viscosity of from 9 to 12 dl/g and is formed from water-soluble monomer blend comprising 60 to 80 wt.% anionic monomer and from 40 to 20 wt.% nonionic monomer, the composition having a viscosity of not more than 4,000 cps, to water, the composition being thereby diluted, and irrigating an area of soil with the water.

13. **(previously presented):** A process according to claim 12 in which the soil is irrigated by furrow irrigation, drip irrigation, or spray irrigation.

14. **(previously presented):** A process according to claim 12 in which water is pumped through feed ducting and a mixing zone to a spray manifold supplying one or more spraying devices by which the water is sprayed onto a crop area and the aqueous soil treatment composition is metered into the water at or before the mixing zone.

15. **(previously presented):** A method for the production of an aqueous soil treatment composition comprising providing an aqueous solution of at least 10 wt% ionic water soluble fertilizer (a) and mixing it with polymer (b), said polymer (b) being a water soluble anionic polymer which has an intrinsic viscosity of from 9 to 12 dl/g and is formed from water-soluble monomer blend comprising 60

to 80 wt.% anionic monomer and from 40 to 20 wt.% nonionic monomer, the composition having a viscosity of not more than 4,000 cps, in powder form.

16. **(previously presented):** A soil treatment process as claimed in claim 12, wherein the composition has, before dilution, a viscosity below 4000 cPs.

17. **(previously presented):** A process according to claim 12 in which the polymer (b) is a copolymer of acrylamide with an alkali metal salt of acrylic acid.

18. **(previously presented):** A process according to claim 12 in which the polymer (b) is present in an amount of from 2 to 5 wt.%.

19. **(previously presented):** A process according to claim 12 in which the fertiliser (a) is present in an amount of from 20 to 60 wt.%.

20. **(previously presented):** A process according to claim 12 in which the aqueous soil treatment composition has a viscosity of from 200 to 500 cps.

21. **(previously presented):** A process according to claim 12 in which the aqueous soil treatment composition has a viscosity of not more than 1,000 cps.

(9) EVIDENCE APPENDIX

No evidence is entered by the appellant in the appeal.

(10) RELATED PROCEEDINGS APPENDIX

An Appeal Brief is also filed in Application number 10/057,423, filed January 24, 2002 of the same family. No decisions have been rendered by a court or the Board.

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LEXSEE 56 USPQ 2D 1725

UNITED STATES PATENTS QUARTERLY

Ex parte Schricker

No. 1996-2414

U.S. Patent and Trademark Office Board of Patent Appeals and Interferences

56 U.S.P.Q.2D (BNA) 1723

Decided June 7, 2000; Released September 21, 2000

NOTICE: AS AN UNPUBLISHED DECISION, THIS OPINION DOES NOT SERVE AS PRECEDENT.

CASE HISTORY and DISPOSITION: Appeal from rejection of claims in application for patent.

Patent application of Brian R. Schricker, serial no. 07/894,502. n1 Applicant appeals from examiner's rejection of claims 1-14. Vacated and remanded; new grounds for rejection of claims 1-14 entered pursuant to 37 C.F.R. Section 1.196(b).

[Editor's Note: The Board of Patent Appeals and Interfernces states that "[t]he opinion in support of the decision being entered today is not binding precedent of the Board."]

n1 Application for patent filed 7 August 1992. The real party in interest is believed to be Mallinckrodt Veterinary, Inc.

HEADNOTES:
PATENTS

[1H]** Patentability/Validity -- Anticipation -- Prior art (115.0703)

Patentability/Validity -- Obviousness -- In general (115.0901)

Patent examiner's rejections of claims in application under *35 U.S.C. Section 103,* based in part on finding of "inherency," are vacated, since examiner has not explained basis of rejection, and has not specified which part of prior art document supports rejection; inherency is rationale associated with anticipation, and when rejection is based on inherency, it is incumbent on examiner to point to "page and line" of prior art which justifies inherency theory.

[2H]** Patentability/Validity -- Specification -- Enablement (115.1105)

Claims in application for method of treating fish to increase protein content and decrease fat content are rejected for lack of enablement, since applicant's specification sets out only limited experimental work, but postulates wide application of principles of invention, since specification does not provide sufficient direction and practical guidance, since "working examples" provided by applicant are limited to rainbow trout, whereas all claims but one encompass treatment of any fish, since nature of invention may involve beginning effort to change protein-to-fat ratio in commercial fish, since prior art articles are somewhat cautious in reporting results and predicting future activities, since art in question is unpredictable, and since, in view of foregoing factors, undue experimentation would be necessary to practice invention as broadly claimed.

[3H]** Practice and procedure in Patent and Trademark Office -- Prosecution -- Rules and rules practice (110.0905)

Presumption that government officials have "properly discharged their official duties," and corollary assumption that examiner has reviewed all references in record, has been overcome in present case, since prior art cited by applicant in information disclosure statements, although not cited by examiner, warrant rejection of claims at issue for anticipation, obviousness, and lack of enablement; present case demonstrates need for practical way to overcome such presumption in order to avoid inequities, since presumption creates real-world problems for third parties, in re-examination proceedings and litigation, who had no standing to participate in ex parte examination process, and all examiners must therefore give careful and thorough attention to information disclosure statements.

CLASS-NO: 110.0905, 115.0703, 115.0901, 115.1105

COUNSEL: Wendell Ray Guffey, of Mallinckrodt Veterinary Inc., Mundelein, Ill., for applicant.

JUDGES: Before Smith and Mills, administrative patent judges, and McKelvey, senior administrative patent judge.

OPINIONBY: Per curiam.

OPINION:
MEMORANDUM OPINION and ORDER Decision on appeal under *35 U.S.C. Section 134*

The appeal is from a decision of the Primary Examiner rejecting claims 1-14.

We vacate and remand.

We also enter new grounds of rejection of claims 1-14 pursuant to 37 CFR Section 1.196(b).

I.

A. Order vacating the examiner's rejections

Upon consideration of the examiner's rejections of claims 1-14 as being unpatentable under *35 U.S.C. Section 103* over: it is

(1) Komourdjian et al., "The effect of porcine somatotropin on growth, and survival in seawater of Atlantic salmon (Salmo salar) parr," 54 Can. J. Zool. 531-535 (1976) or n2

(2) Komourdjian et al., "Growth of Rainbow Trout, Salmo gairdneri , after Hypophysectomy and Somatotropin Therapy," 34 General and Comparative Endocrinology 158-162 (1978),

n2 Insofar as we can tell, no rejection is based on a combination of the two Komourdjian documents.

ORDERED that the rejections are vacated and the appeal is remanded for further consideration consistent with the views expressed in **[*1725]** this MEMORANDUM OPINION and ORDER.

B. Discussion

It is difficult to understand the rationale in support of the examiner's rejections. In the final rejection (Paper 9, page 2), the examiner seemingly bottoms the rejection(s) on "inherency." Thus, the examiner states (bold added):

Claims 1-14 are rejected under *35 U.S.C. Section 103* as being unpatentable over [the] Komourdjian * * * [documents].

The Komourdjian system has not been demonstrated to be different than that claimed. That is, the claimed "increasing the protein content and fat accretion of fish" would be inherent in the use of the porcine somatotropin of Komourdjian.

There are two Komourdjian documents, but the examiner talks in terms of "[t]he Komourdjian system." One Komourdjian document deals with administering porcine somatotropin to salmon to improve survival when transferred from fresh to salt water; the other deals with administering porcine somatotropin to trout to increase the rate at which trout put on weight and grow. When articulating his rationale in the examiner's answer, the examiner fails to distinguish between the two Komourdjian documents. What "system" is being discussed by the examiner?

We also find the following in the examiner's answer (Paper 19, pages 2-3):

It would be [sic--would have been] routine to increase the amount of PST [, i.e., porcine somatotropin,] administered in the course of determining optimum conditions.

Thus, the rationale in the examiner's answer seems to assume a difference between the claims and the prior art and purports to justify why the claimed subject matter, as a whole, would have been obvious notwithstanding the difference. The examiner's shifting rationale in support of his rejections gives us pause as to the precise basis upon which the examiner has bottomed the rejections. Moreover, the examiner's actions have made it difficult for us to decide what issues are on appeal and how those issues might be resolved on the merits.

First, the examiner does not individually address either of the Komourdjian documents. Each should be addressed separately and the examiner should state why each supports a rejection.

Second, the examiner does not address individual claims despite the fact that applicant has singled out numerous claims for separate consideration.

Third, on the one hand the examiner talks in terms of inherency (which is really an anticipation rationale) while on the other hand the examiner talks in terms that it would have been obvious to experiment to divine optimum conditions.

Go to Headnotes **[**1R]** Inherency and obviousness are somewhat like oil and water--they do not mix well. Claimed subject matter can be anticipated because a prior art reference describes a method which inherently meets the limitations of a claimed method. Claimed subject matter can be unpatentable for obviousness when, notwithstanding a difference between that subject matter and a prior art reference, the claimed subject matter, as a whole, would have been obvious. However, when an examiner relies on inherency, it is incumbent on the examiner to point to the "page and line" of the prior art which justifies an inherency theory. Compare *In re Rijckaert , 9 F.3d 1531, 1533, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993)* (when the PTO asserts that there is an explicit or implicit teaching or suggestion in the prior art, it must indicate where such a teaching or suggestion appears in the prior art) (citing *In re Yates , 663 F.2d 1054, 1057, 211 USPQ 1149, 1151 (CCPA 1981).*

The examiner has left applicant and the board to guess as to the basis of the rejection and after having us guess would have us figure out (i.e., further guess) what part of which Komourdjian document supports the rejection. We are not good at guessing; hence, we decline to guess. Accordingly, we vacate the rejections and remand for further proceedings consistent with the views expressed in this opinion.

We wish to make crystal clear that we are not saying that one of the Komourdjian documents does not inherently anticipate a claim on appeal. What we are saying is that the examiner has failed to develop the record sufficiently to permit applicant to address the issues and for us to make a cogent ruling on any difference of opinion between applicant and the examiner.

If the examiner believes that either Komourdjian document supports a rejection **[*1726]** based on inherency, the examiner should enter a further rejection explaining the basis for his belief. Likewise, if the examiner finds that there is a difference between the Komourdjian documents and the claimed subject matter, and the examiner seeks to maintain an obviousness rejection, the examiner should make the findings necessary under *Graham v. John Deere Co ., 383 U.S. 1 (1966).* See also MPEP Section 702.06(j) [7th ed., Rev. 1, Feb. 2000].

II.

A. New grounds of rejection

The following new grounds of rejection of claims 1-14 are made. 37 CFR Section 1.196(b). The new grounds of rejections based on prior art and enablement are supported by references in the file prior to entry of the examiner's answer, a fact which concerns us and which we discuss in more detail later.

B. New grounds of rejection based on McLean

1. Claim 1

Claim 1 is rejected as being unpatentable under *35 U.S.C. Section 102* as anticipated (inherently) by McLean. n3

n3 McLean et al., "Promotion of growth in diploid and triploid coho salmon with parenteral delivery of a recombinant porcine somatotropin," 4 Aquat. Living Resour. 155-160 (1991).

Claim 1 calls for treating fish with porcine somatotropin to (1) increase protein content and protein accretion or (2) decrease fat content and fat accretion.

McLean describes administration by injection of 2.5[mu]g/g of rpSt [recombinant porcine somatotropin (Amgen)] to diploid (2 n) and triploid (3 n) (sterile) Pacific salmon (McLean, page 156, paragraph after "Experimental animals"). The rpSt was administered once weekly for 10 weeks (id .). n4 The amount of rpSt injected by McLean [2.5[mu]g/g] falls within the range of "about 1 to about 15 [mu]g/g" which applicant says can be injected (specification, page 6, lines 11-13).

n4 According to McLean, a lipid (fat) content reduction from 9.18 +/- 1.09 to 7.10 +/- 0.94 was observed (page 158, Table 2) vis-a-vis 3 n salmon treated with bovine somatotropin. Also apparent is the fact that the lipid content of 3 n salmon treated with rpSt was significantly lower than the lipid content of 2 n salmon treated with rpSt (7.10 +/- 0.94 vis-a-vis 9.42 +/- 1.84). The record also reveals that it is known that injection of channel catfish with bovine somatotropin in amounts of 0.1 [mu]g/g and 1.0 [mu]g/g did not significantly reduce fat. See Wilson et al., "Effect of Recombinant Bovine Growth Hormone Administration on Growth and Body Composition of Channel Catfish," 73 Aquaculture 229-236 (1988), page 233, Table 5. Administering large amounts, i.e., 10 [mu]m/g, apparently increases fat deposition (page 234, last paragraph).

In view of (1) the similarity between the McLean treatment of 3 n salmon and the invention described in applicant's specification and (2) the lower lipid content of treated 3 n salmon as compared to treated 2 n salmon, there is a plausible

basis for finding that McLean's treatment of 3 n salmon falls within the scope of claim 1. In other words, the subject matter of claim 1 is inherently described by McLean's treatment of 3 n salmon. It follows that there is sufficient evidence in the record to justify shifting the burden to applicant to demonstrate that McLean's description of treatment of 3 n salmon does not inherently anticipate the subject matter of claim 1. Compare *In re Spada , 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990)* and *In re Best , 562 F.2d 1252, 195 USPQ 430 (CCPA 1977).*

2. Claim 2

Claim 2 is rejected under *35 U.S.C. Section 102* as anticipated by McLean.

Claim 2 additionally calls for administration orally or parenterally in an amount of from about 1 to about 15 [mu]g/g. McLean describes injection of 2.25 [mu]g/g. Injection is a form of parenteral administration. See also McLean, page 159 ("The present study * * * demonstrates that parenteral administration * * * would provide a significant advantage * * *.").

3. Claim 6

Claim 6 is rejected under *35 U.S.C. Section 102* as anticipated by McLean.

Claim 6 calls for use of a porcine somatotropin which is recombinant porcine somatotropin. The rpSt described by McLean is explicitly described as being recombinant (page 156, col. 2, middle of first full paragraph).

4. Claim 7

Claim 7 is rejected as being unpatentable under *35 U.S.C. Section 103* over McLean and prior art admitted in the specification.

Claim 7 calls for the use of [DELTA]7pST as the porcine somatotropin. We construe the reference **[*1727]** to [DELTA]7pST to be a reference to pST-[DELTA]7 (but see new ground of rejection, infra). McLean differs from claim 7 in that McLean does not describe the use of pST-[DELTA]7 as the recombinant porcine somatotropin. However, as applicant candidly acknowledges in the specification, pST-[DELTA]7 is a known recombinant porcine somatotropin (specification, page 3, lines 18-24, referring to U.S. Patent 4,766,224 and European Patent Application 104 920 A1). McLean's description of the use of recombinant porcine somatotropin would have suggested to one having ordinary skill in the art the use of other known recombinant porcine somatotropins to treat 3 n Pacific salmon. Accordingly, the subject matter of claim 7 would have been obvious.

5. Claim 11

Claim 11 is rejected under *35 U.S.C. Section 102* as anticipated by McLean.

Claim 11 calls for administering porcine somatotropin to fish every 7 days. McLean explicitly describes injection on a once weekly basis (page 156, col. 2, first full paragraph).

C. New grounds based on Cheema

1. Claim 1

Claim 1 is rejected under *35 U.S.C. Section 102* as being anticipated by Cheema. n5

n5 Cheema et al., "Increased Uptake of L-leucine-<14>C in the Skeletal Muscle of Rainbow Trout, salmo gairdneri , After Administration of Growth Hormone," 10 Pakistan J. Zool. 119-123 (1978).

Claim 1 calls for treating fish with porcine somatotropin to (1) increase protein content and protein accretion or (2) decrease fat content and fat accretion.

Cheema describes injection of 0.25 mg/20-30g and 0.1 mg/20-30g of porcine growth hormone (Ferring AB Malmo, Sweden) to rainbow trout (page 120, lines 2-3 and discussion under "Growth hormone"). Following injection with porcine growth hormone, leucine-<14>C was injected for the purpose of determining effect on protein synthesis in the trout.

Table I on page 121 confirms that injection of porcine growth hormone "exerted an acute in vivo effect on protein synthesis in young rainbow trout" (page 121, first and second lines after RESULTS).

On the basis of the description in Cheema, there is a reasonable basis for finding that the administration of porcine growth hormone, which is the same as porcine somatotropin, would "increase the protein content and protein accretion" within the meaning of claim 1. As in the case of the rejection of claim 1 based on McLean, there is a reasonable basis on this record to justify shifting the burden to applicant to demonstrate that Cheema's description of treatment of young rainbow trout does not inherently anticipate the subject matter of claim 1. Compare *In re Spada , 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990)* and *In re Best , 562 F.2d 1252, 195 USPQ 430 (CCPA 1977).*

2. Claim 2

Claim 2 is rejected under *35 U.S.C. Section 102* as anticipated by Cheema.

Claim 2 additionally calls for administration orally or parenterally in an amount of from about 1 to about 15 [mu]g/g. Cheema describes injection of 0.25 mg of porcine growth hormone to fish weighing 20-30 grams. An injection rate of 0.25 mg/20 grams is the same as 12.5 [mu]g/g; n6 an injection rate of 0.25 mg/30 grams is the same as 8.3 [mu]g/g. n7 Both rates are within the scope of claim 2.

n6 (0.25 mg)/(20 grams) = 0.0125 mg/g. Multiplying by 1000 will give 12.5 [mu]g/g.

n7 (0.25 mg)/(30 grams) = 0.0083 mg/g. Multiplying by 1000 will give 8.3 [mu]g/g.

3. Claims 6 and 7

Claim 6 is rejected under *35 U.S.C. Section 102* as anticipated by Cheema. Claim 7 is rejected under *35 U.S.C. Section 103* as being unpatentable over Cheema.

Claim 6 calls for use of a porcine somatotropin which is recombinant porcine somatotropin. The porcine growth hormone described by Cheema is believed to be a recombinant porcine somatotropin given where Cheema says it acquired the hormone.

Claim 7 calls for the use of [DELTA]7pST as the porcine somatotropin. We construe the reference to [DELTA]7pST to be a reference to pST-[DELTA]7 (but see new ground of rejection, infra).

Also, if the porcine growth hormone of Cheema is not recombinant, then claim 6 is rejected as being unpatentable under *35 U.S.C. Section 103* over Cheema, prior art admitted in the specification and McLean.

As noted earlier, pST-[DELTA]7 is a known recombinant porcine somatotropin. Cheema's description **[*1728]** of the use of porcine growth hormone would have suggested to one having ordinary skill in the art that known recombinant porcine somatotropins could likewise be used.

Our position in this respect is re-enforced by McLean, which reveals that recombinant DNA technologies have now provided a means by which large quantities of highly purified potentially inexpensive somatotropins may be synthetically produced (page 156, col. 1, third full paragraph). See also the patent and European Patent Application mentioned in the specification page 3.

Under the circumstances, and in light of all the prior art discussed, it would have been obvious to use a recombinant porcine somatotropin in place of the porcine growth hormone of Cheema (assuming, of course, that the Cheema porcine growth hormone is not itself a recombinant porcine somatotropin). For the reasons given in connection with our analysis of claim 7 vis-a-vis McLean, it also would have been obvious to use the pST-[DELTA]7 porcine somatotropin in the Cheema process.

4. Claim 10

Claim 10 is rejected as anticipated under *35 U.S.C. Section 102* by Cheema.

Claim 10 calls for treating "trout." Cheema explicitly describes injecting rainbow trout.

D. Rejection based on lack of enablement

Claims 1-14 are rejected under *35 U.S.C. Section 112,* first paragraph, as being based on a specification which does not provide an enabling description commensurate in scope with the breath of the claims.

We find that the art in question is unpredictable. The art in question is treating fish to increase protein content and decrease fat content. McLean reveals that there was no significant difference in protein content between 2 n and 3 n salmon when treated with bovine and porcine somatotropin. See page 158, Table 2, under protein, noting that the subscript "a" appears after each entry, which means the results were not significantly different. Fat reduction was not significantly different with respect to 2 n salmon, but was with respect to 3 n salmon. Thus, McLean's observations with respect to sterilized salmon (3 n), but not unsterilized salmon (2 n), tend to suggest--at least as of applicant's filing date--unpredictability in the art before us.

We have been significantly impressed by the rather cautious nature of numerous articles which appear in the record. For example, Skyrud n8 in studying the effect of human growth hormones on growth of brook trout notes that comparison between results must be viewed with caution because body growth depends on several factors, including the source of any hormone administered (page 251, col. 1). Down n9 is to the same effect, noting (page 182, col. 1, next to last paragraph) that "[t]he degree of increased potency that we observed with the analog was unexpected * * *.) Schulte n10 suggests that the action of growth hormones in rainbow trout are somewhat different from those in Pacific salmon (page 154, last sentence of first incomplete paragraph). Le Bail n11 notes the likely side effects resulting from scale removal and frequent handling of fish, including a possibility of bacterial infections (page 101, col. 1, first full paragraph).

n8 Skyrud et al., "Effects of Recombinant Human Growth Hormone and Insulin-like Growth Factor 1 on Body Growth and Blood Metabolites in Brook Trout (Salvelinus fontinalis)," 75 General and Comparative Endocrinology 247-255 (1989).

n9 Down et al., "A Potent Analog of Recombinant Bovine Somatotropin Accelerates Growth in Juvenile Coho Salmon (Oncorhynchus kisutch)," 46 Can. J. Fish. Aquat. Sci. 178 (1989).

n10 Schulte et al., "Experimental Administration of Recombinant Bovine Growth Hormone to Juvenile Rainbow Trout (Salmo gairdneri) by Injection or by Immersion," 76 Aquaculture 145-156 (1989).

n11 Le Bail et al., "Intestinal Transfer of Growth Hormone Into the Circulatory System of the Rainbow Trout, Salmo gairdneri : Interference by Granule Cells," 251 J. of Experimental Zoology 101-107 (1989).

Go to Headnotes **[**2R]** The objective data n12 in applicant's specification is limited to rainbow trout. On the other hand, all the claims, except claim 7, encompass treatment of any fish. Given what appears to be the unpredictable nature of the **[*1729]** art in question, we do not believe applicant has sowed sufficient seeds in the specification to reap the crop he claims. In other words we find that undue experimentation would be necessary to practice the invention as broadly claimed. To support our position, we turn to the Forman factors discussed in *Ex parte Forman , 230 USPQ 546, 547* (Bd. Pat. App. & Int. 1986), cited with approval in *In re Wands , 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).*

n12 Applicant has presented experimental data in the specification. We have relied on the data and found it material in rendering our decision. Moreover, in reaching our decision, we have made the following assumptions: (1) the data set out in the specification upon which applicant relies is based on actual experimentation, (2) the data is accurately set out in the specification and (3) the data is not based on prophetic examples [see *Hoffmann-La Roche, Inc. v. Promega Corp ., 1999 U.S. Dist. LEXIS 19059,* Civil Action C-93-1748-VRW (N.D. Cal. Dec. 7, 1999) (Findings of Fact 56-60, 63-66, 69, 105-106, 112, 131 and 136 and Conclusions of Law 32 and 35)]. We also have relied on the fact that there is no other data known to applicants or the real party in interest which (1) would tend to contradict the experimental data set out in the specification and (2) was not called to our attention in the brief and/or reply brief on appeal [see 37 CFR Section 1.56(b)(2)].

Forman Factor (1) involves the quantity of experimentation necessary. The literature articles in the record, some of which have been discussed in this opinion, all reveal that the scientists involved do not make broad claims based on what appears to be limited research. Rather, their conclusions--always couched in cautious terms--are limited to the data presented in their articles. Each experiment is set out in detail. Applicant's specification, on the other hand, sets out limited experimental work and--unlike the articles--postulates a broad application of the principles of the invention which we assume on this record are based on the experimental work set out in the specification. Based on the record before us, each fish would have to be evaluated with various dosages for each hormone used.

Forman Factor (2) involves the amount of direction or guidance presented. It is true that applicant, in effect, states that any method of administration may be used and dosage ranges are set out. However, again, the direction and guidance provided in the specification when compared to that in the literature articles in the record gives us pause as to how much relevant direction and practical guidance are actually given to a person having ordinary skill in the art by the specification.

Forman Factor (3) involves the presence or absence of working examples. It is true that there are "working examples" (actually experimental data based on experiments with rainbow trout) in applicant's examples. But, those examples are limited to rainbow trout. We do not know, for instance, whether administration of porcine somatotropin would produce similar results in brook trout. In this respect, we note that Skyrud concluded that certain dosages of human growth hormone yielded "unexpected result[s]" (page 249, col. 2, last paragraph), suggesting that dosage may be important and may have to be coordinated with the source of the porcine somatotropin to be used. It follows that in addition to the type and source of fish and the source of any porcine somatotropin, dosage is not without significance.

Forman Factor (4) involves the nature of the invention. In this case we are dealing with animals and an attempt to effect, not only weight and length (which seems to have been done in the prior art), but also increasing protein or decreasing fat (lipids). Apart from Wilson and McLean, it does not appear that others have considered protein and fat content. n13 Hence, the nature of the invention, at least as of applicant's filing date, may involve a beginning effort in a scientific exploration by man to change the protein to fat ratio in commercial fish.

n13 See also , specification, page 3, last paragraph.

Forman Factor (5) involves the state of the prior art. As noted earlier in this opinion, the articles tend to be somewhat cautious in reporting results and predicting future activities to be undertaken.

Forman Factor (6) involves the relative skill in the art. In this respect, we suspect that a person having ordinary skill in the art involved would have considerable skill. That person would understand the articles in the record, including those we have mentioned in this opinion, but would be cautious in extending specific findings based on specific experiments to general findings based on fish in general.

Forman Factor (7) involves the predictability or unpredictability of the art. For reasons already given, we have found that the art is unpredictable.

Forman Factor (8) involves the breadth of the claims. Apart from claim 7, which is limited to trout, all claims cover application of the method to all fish. Claim 7, while limited to trout, is based on a specification which provides empirical data for rainbow trout. Skyrud, however, provides objective evidence that data based on experiments with brook trout need to be evaluated with caution. Hence, one skilled in the art would not necessarily extrapolate applicant's rainbow trout results to brook and other trout.

Given the nature of the case, we conclude as a matter of law that undue experimentation would be necessary to determine the practical limits of the applicability of applicant's invention. Accordingly, we hold that the specification **[*1730]** does not contain an enabling description commensurate in scope with the breadth of the claims.

E. Rejection based on Section 112, second paragraph

Claims 7-9 are rejected under the second paragraph of *35 U.S.C. Section 112,* as being indefinite. See also 37 CFR Section 1.121(b)(4).

The specification (page 3, line 19; page 5, line 13) refers to pST-[DELTA]7 and says that pST-[DELTA]07 is the same as [DELTA]7pGH (page 3, line 22). The claims, however, refer to [DELTA]7pST. The different nomenclature causes unnecessary confusion on the record as to the meaning of [DELTA]7pST. The language of the claims should correspond to the language in the specification so that confusion is minimized.

This rejection may be overcome by amending [DELTA]7pST in claims 7-9 to correspond to the pST-[DELTA]7 of the specification or vice versa. 37 CFR Section 1.196(c).

F. Further observations

The record supports the following findings by a preponderance of the evidence.

Prosecution history

1. The application on appeal was filed on 7 August 1992 (Paper 1).

2. On 6 November 1992, a "first" information disclosure statement (IDS) (Paper 5) was filed listing among other documents the two Komourdjian documents mentioned earlier in this MEMORANDUM OPINION and ORDER.

3. The examiner entered a rejection on 5 April 1993 (Paper 7) relying, inter alia , on the two Komourdjian documents.

4. Following a response by applicants, the examiner entered a final rejection on 1 November 1993 (Paper 9).

5. After entry of the final rejection and on 28 February 1994, a "second" information disclosure statement (Paper 10) was received in the Patent and Trademark Office (PTO).

6. The second information disclosure statement identified, inter alia , a Cheema abstract and a McLean abstract.

7. A notice of abandonment was entered on 27 May 1994 (Paper 11).

8. On 20 June 1994, a "third" information disclosure statement was received in the PTO.

9. The third information disclosure statement (Paper 12) provided full copies of the underlying text of Cheema and McLean. n14

n14 We commend applicant and his counsel for supplying a complete copy of the McLean and Cheema articles.

10. Following a successful effort to revive the application (Paper 15) and on 21 November 1994, applicants filed an appeal brief (Paper 18) addressing the rejection as set out in the final rejection.

11. According to a Form 1449 supplied by the applicant, the examiner says he "considered" the references cited in the second information disclosure statement on 21 November 1994.

12. According to a Form 1449 supplied by the applicant, the examiner also says he "considered" the references cited in the third information disclosure statement on 21 November 1994. We note that both information disclosure statements were considered the same day despite being filed on different dates.

13. An examiner's answer (Paper 19) was entered 16 March 1995 without mention of the McLean or Cheema articles or other references cited by applicants in their second and third information disclosure statements.

Discussion

We doubt that the examiner thoroughly considered the prior art cited by applicant in the second and third information disclosure statements. If he did, we question whether he fully appreciated the significance of that prior art. Our prior art new grounds of rejection and our new ground of rejection based on lack of enablement are bottomed on the prior art cited by applicant.

In re Portola Packaging, 110 F.3d 786, 790, 42 USPQ2d 1295, 1299 (Fed. Cir. 1997), makes the following observation:

[G]overnment officials are presumed to have "properly discharged their official duties." *United States v. Chemical Found., Inc . , 272 U.S. 1, 15 (1926).* If the references were in front of the examiner, it must be assumed that * * * [the examiner] reviewed them.

Go to Headnotes **[**3R]** The assumption made in Portola surely has been overcome in this case. Having said he considered the information disclosure statements after his final rejection and before his answer, we are at a complete loss to understand **[*1731]** why prosecution was not reopened and rejections made on the basis of the prior art.

We think that it is important for examiners to understand that the Portola assumption is difficult, if not impossible, to undermine. Evidence is essentially unavailable from the examiner. *Western Electric Co. v . Piezo Technology, Inc. v. Quigg , 860 F.2d 428, 8 USPQ2d 1853 (Fed. Cir. 1988).* Moreover, just recently a case was reported in the USPQ2d where a court did not permit a so-called expert to state why an examiner missed the boat. *Bausch & Lomb, Inc. v . Alcon Laboratories, Inc . , 53 USPQ2d 1682, 1685 (W.D.N.Y. 2000)* (expert not allowed to testify generally about problems in the examining of patent applications).

In our view the examiner in this case missed the boat. We do not know why. However, the collective experience of the members of this merits panel causes the panel to be concerned about the treatment of information disclosure statements filed in patent applications, particularly when filed late in the prosecution.

A first member of this merits panel recently came to the board after considerable experience in private practice. The panel learns from that member that the Portola presumption (which is a legal fiction) creates real world problems for third parties who had no standing to participate in the ex parte examination process. Reexamination is not possible because every reference cited is "presumed" to have been considered and there is no practical way to get around the presumption. This appeal shows that there needs to be a practical way to overcome the Portola presumption to avoid inequities. Defense in litigation is even more complicated because of (1) the higher burden of proof--clear and convincing--and (2) the practical inability of a defendant to get into the mind of the examiner who allegedly considered all prior art in an information disclosure statement.

A second member of this panel has considerable experience at this board. We learn from that member that on many occasions--too numerous to count--the prior art needed to make out a solid rejection is a reference already of record in the file of the case but which has been "considered" by the examiner but not applied by the examiner. The reference not applied often appears in an information disclosure statement filed late in prosecution and ultimately must be applied in a Rule 196 rejection. A Rule 196 rejection based on prior art generally means that prosecution often starts over after an applicant has waited for some time for a decision by this board.

A third member of this merits panel has observed the application of prior art in preliminary motions for judgment in interference cases. We learn from that member that prior art relied upon in support of the preliminary motion was prior art available in the record before the examiner and before the interference was declared. The Portola albatross does not apply in interferences; neither does the high clear and convincing burden of proof. There is no question that numerous interferences could have been avoided by a timely and thorough consideration of prior art in an information disclosure statement.

In the somewhat isolated environment in which an examiner in the Patent and Trademark Office lives professionally, it is important to appreciate the fact that the public has real world problems. The public cannot effectively seek reexamination if a reference has been cited, apart from whether it was applied. In other words, the public can be " Portoled " when our experience shows it should not be. Examiners also need to remember that an invalidity defense in an infringement action takes place under a burden of proof higher than that under which an examiner labors in ex parte prosecution. Accordingly, we take this opportunity to urge the examiner, indeed all examiners, to give careful and thorough attention to information disclosure statements.

G. Request for oral argument

In view of the fact that we have vacated the examiner's rejection, without reaching the merits, and remanded for action not inconsistent with the views expressed herein, applicant's request for oral argument is moot.

H. Time for taking action by applicant

This MEMORANDUM OPINION and ORDER contains new grounds of rejection pursuant to Rule 196(b) (37 CFR Section 1.196(b)

Rule 196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

Rule 196(b) also provides that the applicant, WITHIN TWO MONTHS FROM THE DATE OF ENTRY OF THIS DECISION , must exercise one of the following two options with **[*1732]** respect to the new ground of rejection to avoid termination of proceedings (Section 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under Section 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR Section 1.136(a).

VACATED and REMANDED 37 CFR Section 1.196(b)

LOAD DATE: 11/29/2000

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IN RE DONALD R. LASKOWSKI and DANIEL R. TEKULVE

No. 88-1349

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

871 F.2d 115; 1989 U.S. App. LEXIS 4313; 10 U.S.P.Q.2D (BNA) 1397

April 3, 1989, Decided

PRIOR HISTORY: [1]**

Appealed from: Board of Patent Appeals and Interferences.

LexisNexis(R) Headnotes

COUNSEL:

Roland A. Fuller, III, of Barnes & Thornburg, Indianapolis, Indiana, argued for Appellants. With him on the brief were William R. Coffey and Jerry E. Hyland.

John C. Martin, Associate Solicitor, Office of the Solicitor, Arlington, Virginia, argued for the Commissioner of Patents and Trademarks. With him on the brief was Fred E. McKelvey, Solicitor.

JUDGES:

Newman, Archer, and Michel, Circuit Judges.

OPINIONBY:

NEWMAN

OPINION:

[*116] NEWMAN, Circuit Judge.

The decision of the United States Patent and Trademark Office Board of Patent Appeals and Interferences, rejecting claims 10 through 13 of Laskowski et al. patent application Serial No. 682,826 entitled "Band Saw Wheel", for failure to meet the requirements of *35 U.S.C. § 103,* is reversed.

Discussion

The Laskowski invention is a novel band saw wherein a pulley-type wheel is loosely fitted with a tire, on which a band saw blade rests. Laskowski states that his band saw has several desirable characteristics: it is readily adjusted, and doesn't require careful fitting of tire or blade, or frequent wheel balancing, or skilled maintenance, **[**2]** or high band strain to provide the requisite driving force, as do various band saws of the prior art. Laskowski explains that the loose tire does not contribute to imbalance in the wheel, and that because of the crowning effect, band saw tensioning is reduced. Claim 10, the broadest claim on appeal, is illustrative and reads:

> 10. In a band saw having
>
> a band saw blade,
>
> a wheel for supporting the blade, comprising a pulley having two radially extending flanges around the periphery of the pulley defining a groove of generally consistent shape therebetween,
>
> the pulley having an inner circumference around a bottom surface of the groove,
>
> a flexible annular tire having a generally consistent inside shape which mates to the groove of the pulley and having an inner circumference larger than the pulley's inner circumference such that the tire floats when mounted on the pulley,
>
> the tire having an outer circumferential surface configured to receive a band saw blade against a portion thereof which pushes the inside shape of this portion into the groove,
>
> the tire sized to ensure that the portion of its outer circumferential surface which contacts the band saw blade extends radially **[**3]** outwardly of radially outwardly facing edges of the flanges to support the blade against the tire's outer circumferential surface radially outwardly

> of the radially outwardly facing edges of the flanges.

Dependent claim 13 is limited to crowned tires (as are the allowed claims, not here at issue). Laskowski states that a crowning effect is manifested during operation of the saw, by action of the blade against the tire, and that claim 10 accurately describes the device that achieves that effect.

The Commissioner agrees that the structure defined in claims 10 through 13 is not shown, and its combination of advantages not achieved, in the band saw prior art. The primary reference of Hoffman (United States Patent No. *3,035,780*) shows a band saw blade riding on a tightly fitted or bonded tire, wherein both blade and tire are recessed between the grooves of the pulley so that the edges of the pulley guide the blade. Laskowski requires that the blade ride above the pulley grooves, where it is supported by the loosely fitted tire whose surface is also above, and wider than, the pulley grooves. Secondary references describe **[*117]** a band saw wheel having a rigid metal crowned **[**4]** surface supporting the blade at high tension, and describe other pulley treads in a non-band saw system.

Although the Commissioner suggests that Hoffman could readily be modified to form the Laskowski structure, "the mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." *In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). See also, e.g., Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985); In re Grabiak, 769 F.2d 729, 731, 226 USPQ 870, 872 (Fed. Cir. 1985); In re Sernaker, 702 F.2d 989, 994, 217 USPQ 1, 5 (Fed. Cir. 1983).*

The prior art does not suggest Laskowski's modification of the Hoffman band saw wheel, or provide any reason or motivation to make that modification. *In re Regel, 526 F.2d 1399, 1403 n. 6, 188 USPQ 136, 139 n.6 (CCPA 1975)* ("there must be some logical reason apparent from positive, concrete evidence of record which **[**5]** justifies a combination of primary and secondary references") (*citing In re Stemniski, 58 C.C.P.A. 1410, 444 F.2d 581, 170 USPQ 343 (1971)).* We agree with the Commissioner that the suggestion to modify the Hoffman structure need not be found in Hoffman. In this case, however, the only source of the suggestion is Laskowski; there is no prior art teaching that would provide the motivation of using a loosely fitting tire, rising above the pulley flanges, to support the saw blade. *See In re Geiger, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987)* (obviousness can not be established by combining pieces of prior art absent some "teaching, suggestion, or incentive supporting the combination"); *In re Cho, 813 F.2d 378, 382, 1 USPQ2d 1662, 1664 (Fed. Cir. 1987)* (discussing the Board's holding that "the artisan would have been motivated" to combine the references); *In re Deminski, 796 F.2d 436, 443, 230 USPQ 313, 316 (Fed. Cir. 1986)* (impropriety of hindsight reconstruction); *In re Donohue, 766 F.2d 531, 534, 226 USPQ 619, 622 (Fed. Cir. 1985)* (referring to the "suggestion or motivation to combine **[**6]** teachings" in rejections for obviousness) (*citing In re Samour, 571 F.2d 559, 563, 197 USPQ 1, 4-5 (CCPA 1978)); In re Clinton, 527 F.2d 1226, 1228, 188 USPQ 365, 367 (CCPA 1976)* (holding that "a person of ordinary skill in the art would have had sufficient motivation to combine" the separate steps); *In re Boe, 505 F.2d 1297, 1299, 184 USPQ 38, 40 (CCPA 1974)* (discussing "the main motivation for combining" two prior art references).

We conclude that the prior art does not make obvious the Laskowski invention, and that the requirements of *35 U.S.C. § 103* have been met. The decision of the Board is

REVERSED

LEXSEE 221 USPQ 1125

IN RE LUCAS S. GORDON and KARL M. SUTHERLAND

Appeal No. 83-1281

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

733 F.2d 900; 1984 U.S. App. LEXIS 15015; 221 U.S.P.Q. (BNA) 1125

May 10, 1984

PRIOR HISTORY: [1]**

Appealed from: United States Patent and Trademark Office Board of Appeals. Serial No. 124,312.

DISPOSITION:

REVERSED.

LexisNexis(R) Headnotes

COUNSEL:

James W. Geriak, of Los Angeles, California, argued, for Appellants. With him on the brief was Bradford J. Duft.

John F. Pitrelli, of Arlington, Virginia, argued, for Appellee. With him on the brief were Joseph F. Nakamura, Solicitor and John W. Dewhirst, Associate Solicitor.

JUDGES:

Bennett, Circuit Judge, Skelton, Senior Circuit Judge, and Miller, Circuit Judge.

OPINIONBY:

MILLER

OPINION:

[*900] MILLER, Circuit Judge.

This appeal is from the decision of the United States Patent and Trademark Office ("PTO") Board of Appeals ("board") affirming the examiner's rejection of appellants' claims n1 1-3 and 5-7 as unpatentable under *35 U.S.C. § 103*. We reverse.

n1 In application Serial No. 124,312, filed February 25, 1980, for a "Blood Filter."

THE INVENTION

Appellants claim a "blood filter assembly" used during surgery and other medical procedures involving the handling of blood to remove clots, bone debris, **[**2]** tissue, or other foreign materials from blood before it is returned to a patient's body. Unlike blood filter assemblies widely used in the prior art, the device of the present invention permits both entry of the blood into, and ultimate discharge of the blood out of, the *bottom* end of the filter assembly, as shown below. n2

n2 Extraneous numbers have been removed from this and the subsequent drawing for clarification.

[*901] [SEE FIG. 1 IN ORIGINAL]

The blood filter assembly comprises a shell 1 provided with blood inlet 3 and blood outlet 4. Between the blood inlet and the blood outlet is filter medium 6 positioned within the filter medium core 7.

The location of blood inlet 3 is such that the incoming blood is directed along a spirally upward path by the inner wall of the shell. Further, the location of the blood inlet at the bottom end of the filter assembly facilitates the removal of gas bubbles by allowing them to rise upwardly out of the blood. The gas bubbles so removed are released **[**3]** from the blood filter assembly by means of a gas vent 5 located in the region of the top end of the assembly.

Independent claim 1, from which the other appealed claims depend, is illustrative:

Blood filter assembly comprising:

a. a shell having a first top end and a second bottom end,

b. a blood inlet located in the region of said bottom end and opening into said bottom end,

c. a blood outlet located in the region of said bottom end,

d. a gas vent located in the region of said top end, and

e. a blood filter medium located between said blood inlet and said blood outlet,

said blood inlet being located and configured in a manner capable of directing incoming blood in a generally spiral path within said shell.

Claims 2, 3, and 5-7 further define the shape of the shell, the shape of the filter medium, and the nature of the material used as the filter medium.

PRIOR ART

The sole reference relied upon by the board is United States Patent No. *1,175,948*, issued March 21, 1916, to French. French discloses a liquid strainer for removing dirt and water from gasoline and other light oils. As shown below, the inlet 4 and outlet 5 of the French device are both **[**4]** at the *top* end of the device.

[SEE ILLUSTRATION IN ORIGINAL]

[*902] A continuous helical tooth or thread 8 is formed integral with the inner wall of shell 1 and imparts to the incoming liquid a whirling motion, which gives the liquid a scouring action to help clean the surface of a metal screen filter 21 and guides unwanted dirt and water downwardly into a pocket 9 in the bottom of the shell. A pair of shelves 10 and 11, projecting inwardly and downwardly from the inner wall of the shell, further assists the entrance of dirt and water into the pocket 9 and prevents their being drawn back into the main chamber 12. The reference expressly states, "gravity assists in the separation of heavier oils or water." A pet-cock 13, projecting vertically downward from the bottom of the pocket is used to remove the collected dirt and water periodically. The top of the liquid strainer is completely closed by gland 3 except for the inlet and outlet openings.

BOARD OPINION

The board held that the appealed claims were drawn to an apparatus which "would have at least been rendered *prima facie* obvious to one of ordinary skill in the art by the apparatus disclosed in French." **[**5]** The board's reasoning was that it would have been obvious to turn the French device upside down to have both the inlet and outlet at the bottom, rather than at the top; and to employ French's "pet-cock" as the claimed "gas vent." In the board's opinion, no patentable distinction was created by viewing French's apparatus from one direction and the claimed apparatus from another.

ANALYSIS

We are persuaded that the board erred in its conclusion of *prima facie* obviousness. The question is not whether a patentable distinction is created by viewing a prior art apparatus from one direction and a claimed apparatus from another, but, rather, whether it would have been obvious from a fair reading of the prior art reference as a whole to turn the prior art apparatus upside down. French teaches a liquid strainer which relies, at least in part, upon the assistance of gravity to separate undesired dirt and water from gasoline and other light oils. Therefore, it is not seen that French would have provided any motivation to one of ordinary skill in the art to employ the French apparatus in an upside down orientation. The mere fact that the prior art could be so modified would not have made **[**6]** the modification obvious unless the prior art suggested the desirability of the modification. *See Carl Schenck, A. G. v. Nortron Corp., 713 F.2d 782, 787, 218 U.S.P.Q. (BNA) 698, 702 (Fed. Cir. 1983),* and *In re Sernaker, 702 F.2d 989, 995-96, 217 U.S.P.Q. (BNA) 1, 6-7 (Fed. Cir. 1983),* both citing *In re Imperato, 486 F.2d 585, 587, 179 U.S.P.Q. (BNA) 730, 732 (CCPA 1973).*

Indeed, if the French apparatus were turned upside down, it would be rendered inoperable for its intended purpose. The gasoline to be filtered would be trapped in pocket 9, and the water French seeks to separate would flow freely out of the outlet 5. Further, unwanted dirt would build up in the space between the wall of shell 1 and screen 21, so that, in time, screen 21 would become clogged unless a drain valve, such as pet-cock 13, were re-introduced at the new "bottom" of the apparatus. *See In re Schulpen, 55 C.C.P.A. 960, 390 F.2d 1009, 1013, 157 U.S.P.Q. (BNA) 52, 55 (CCPA 1968).* In effect, French teaches away from the board's proposed modification.

Because the PTO has failed to establish a *prima facie* case of obviousness, the rejection of claims 1-3 and 5-7 as unpatentable under *35* **[**7]** *U.S.C. § 103* must be *reversed.* n3

n3 Because our holding that the PTO has failed to establish a *prima facie* case is dispositive, it is unnecessary to reach other arguments raised by appellants.

REVERSED.